Need of Social Statistics As an Aid to the Courts

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Of recent years and especially of recent months public opinion and political parties have been aroused, as they have not since the Dred Scot case, over certain judicial decisions and their relation to the public welfare. One outside both of politics and of law might think it prudent to be silent on this subject. But on a matter of such moment every phase of opinion is entitled to a hearing and we may have faith that "in the multitude of counsellors there is safety." Among that multitude I have heard none claiming to speak for the statistician. Believing as I do that this small but growing group has a point of view which deserves attention, I shall venture this afternoon to present and defend their position, as I conceive it.

What I have to say may be introduced with a quotation from a distinguished jurist who, in part, it may be, because of his work as a student in natural science and later his teaching of law at three great universities, has a broader outlook and more familiarity with related fields of thought than is likely to be the lot of the lawyer or judge immersed in the routine duties of an exacting profession. Professor Pound in closing a recent series of suggestive articles in the *Harvard Law Review* says: "Not a little of the world-wide discontent with our present legal order is due to modes of juristic thought and juridical method which result from want of 'team-work' between jurisprudence and the other social sciences."

The "juridical method" is primarily deductive, deriving conclusions from the principles of the law applicable to the case at bar. Philosophical jurisprudence subjects those principles to a critical analysis, discovers the large empirical element they contain, and by showing how they

alter with growing experience and with changes in the implicit political or social presuppositions upon which they are built undermines that almost religious faith in their permanent social value common among lawyers and judges. But even philosophical jurisprudence, like a great part of economics and of sociology, devotes much time to the definition, elucidation and criticism of terms and conceptions and to deduction from principles—intellectual processes in which the lawyer and the judge are already trained.

If the lawyer should turn to economic history and statistics, which are perhaps the most inductive branches of social science, he would find a change in method sharply marked. The contrast between the mental characteristics exercised, on the one hand, in stating legal principles neatly and clearly and applying them convincingly to a given or assumed state of facts, and those exercised, on the other hand, in the patient investigation of the facts as they have been and are is of the widest. For this reason an intelligent and sympathetic comprehension of the methods of ascertaining social fact would be of the first value to a judge as supplementing the somewhat excessively deductive training he usually obtains from his profession.

It may be said in reply that the facts are given to the Appellate Court, that in previous trials they have been admitted or established, and that all the judge has to do is to apply his principles. But this statement I am compelled to challenge. The very contrary is often the truth. In the great majority of decisions belonging to the class in dispute the court has by implication, if not by direct statement, passed upon questions of fact so important that if they had been differently viewed the verdict would have been other than it was. In other words, my main contention is that many, perhaps most, of the court decisions which have aroused dissatisfaction and criticism have turned on questions of social fact, and fact often imperfectly apprehended or established.

In order to avoid controverted matter at the start, I will draw my first illustration from a decision neither made by a court nor arousing any considerable dissatisfaction, that rendered by the Anthracite Coal Strike Commission of 1902-03.

One claim made before that Commission by the union mine workers, the only one with which I am now concerned, was for an increase of 20 per cent. in their wages. For this claim the following reason, among others, was assigned: "The rate of wages in the anthracite coal fields is insufficient to compensate the mine workers in view of the dangerous character of the occupation in relation to accidents, the liability to serious and permanent disease, the high death rate and the short trade life incident to this employment." The Commission found and reported that anthracite coal mining "should be classed as one of the dangerous industries of the country, ranking with several of the most dangerous."

No evidence was introduced and I believe no important evidence could then or can now be found regarding the comparative liability of American anthracite coal miners "to serious and permanent disease, a high death rate and a short trade life," and yet these points seem to go to the essence of the miners' claim. In determining the total death rate and the length of trade life accidents are usually a minor factor. In the eyes of the public and probably in those of the miners they bulk much larger than the facts, if known, would warrant.

To show this, let me turn to some foreign statistics, not assuming that they would hold true for Pennsylvania, but believing they point to a line of evidence which we sorely need for this country. Let us suppose a demand for a 20 per cent. increase of coal miners' wages had been made in England, supported by similar claims, and examine the evidence there available to aid in its solution. During the years 1900-1902 figures were carefully gathered showing the death rate from accidents and other causes among

nearly half a million coal miners. The figures show that fatal accidents were more than twice as common among coal miners as among all occupied and retired males of like age. Thus, if an inference from England to Pennsylvania were allowable, the finding of the Commission that anthracite coal mining is "one of the dangerous industries"—already well supported by Pennsylvania figures—seems confirmed. But looking to the death rate from all causes, a much more significant evidence of the length of trade life, the death rate of English coal miners at ages 25-64 was between eleven and twelve per cent. below the average of all working males. Why does coal mining, at least in England, notwithstanding the frequency of fatal accidents, seem to be a healthy occupation? Because the very high mortality from accidents is more than neutralized by the low mortality from certain forms of disease, notably consumption. How far these results would apply to anthracite coal miners in Pennsylvania, no one can tell.

The second case of which I wish to speak is the well-known bake-shop case.[1] The New York law under discussion was one of the earliest American statutes restricting the hours of men's labor. The work of bakers was limited to ten hours a day or 60 a week, and the statute, although a part of the labor law, was defended and justified as protecting the health of the consumers of bread, or of the bakers themselves. Nineteen judges passed upon the statute, ten thinking it constitutional and nine unconstitutional; but, as five of the nine were members of the United States Supreme Court, the last and binding decision was adverse.

From the numerous opinions in the case it is possible to derive this general conclusion: If the occupation of a baker as then followed in the bake-shops of cities in New York was so harmful to those engaged in it or through its products was so injurious or menacing to the general health as to invite special legislation, then the statute was an

[1] People v. Lochner, 177 N. Y. 145 and 198 U. S. 45.

admissible exercise of the police power. But if neither of these conditions was met, the statute was unconstitutional. Thus Judge Parker of the Court of Appeals wrote: "The published medical opinions and vital statistics . . . fully justify the section under review as one to protect the health of the employees;" and Justice Vann, defending the same conclusion, wrote: "I do not think the regulation in question can be sustained unless we are able to say from common knowledge that working in a bakery . . . is an unhealthy employment." On the other hand, Justice Bartlett of the same court admitted that the State might regulate the hours of labor in any vocation pursued at the risk of health, but expressed his belief "that the occupation of a baker did not fall within that class" and so voted against the validity of the statute; and Justice Peckham of the United States Supreme Court in writing the prevailing opinion said: "There can be no fair doubt that the trade of a baker in and of itself is not an unhealthy one to that degree which would authorize the legislature to pass such a statute." Other justices, like Harlan and Holmes, upheld the statute on the ground that whether the occupation was healthy or unhealthy was a question of fact upon which the court should accept the opinion of the Legislature implied in the passage of the law. On the whole, a study of the opinions warrants a belief that the law would have been held constitutional by every one of the judges if either of the following conditions had been met: If the judge had accepted the opinion of the Legislature affirming the unhealthy character of the baker's occupation as conclusive; or if, on independently reviewing the evidence offered in support of that conclusion, he had found it convincing.

This decision thus turned on a question of fact. Upon that question the evidence cited by the judges consisted in a series of opinions from medical writers and vague references to vital statistics. Mulhall's *Dictionary of Statistics*, that *bête noire* of careful statisticians, was cited four times. I doubt whether any member of this Association would hold

that the evidence mentioned in the numerous opinions of the judges warranted a confident answer either affirmative or negative to the question, Was the occupation of a baker in the cities of New York State a very unhealthy one?

If a similar question had arisen in England the answer to it would have been clear and probably convincing. The death rate of bakers 25-64 years of age in 1891 and in 1901 was to the death rate of all males at the same ages as 92 is to 100; in other words, the occupation was somewhat healthier than the average. During the decade 1890-1900 the death rate of bakers fell, the improvement being greatest in the case of consumption and diseases of the respiratory system. Whether similarly a low death rate and rapid improvement in the health of bakers in this country or in New York State would appear, if the facts were known, no one can safely assert. The even division of the judges arose largely from the circumstance that most of them felt bound to reach a conclusion of fact when the evidence was inconclusive and about equally balanced.

The third and last case of which I wish to speak is the one in which the New York Court of Appeals in 1911 unanimously held the Workman's Compensation Act of 1910 unconstitutional.[2]

The statute was based upon a classification of occupations under which eight especially dangerous kinds of employment were selected for protection by a new system of compensation in case of accident. To this classification no serious objection was raised by the court. The central question decided in this case, as in the bake-shop case, was that the statute was not a legitimate exercise of the police power, that is, "the power of promoting the public welfare by restraining and regulating the use of liberty and property.[3] On this point the court said that the statute "does nothing to conserve the health, safety or morals of the employees," and, elsewhere, that it "contains not a single

[2] Ives v. South Buffalo Ry. Co., 201 N. Y. 271.

[3] Freund, Police Power, p. iii.

provision which can be said to make for the safety, health or morals of the employees." From the context of these passages we may infer that if the court had taken a different view, if it had believed that the statute did make for the safety or health of the employees, it would have decided that the statute was a valid exercise of the police power and constitutional.

Now the striking thing about these positions of the court, like those in the other two cases, is that they are not conclusions of law, but statements of fact. As such it requires no special training in the law to examine them.

The United States is believed to have an extremely high accident rate, but our statistics to confirm or correct the opinion are meager, if not inconclusive. One of the main purposes of the law declared unconstitutional was to lower that accident rate in those industries as well as to assure compensation. The court seems to assume without giving its reasons that this purpose would not be realized. The general testimony of students of accident statistics in foreign countries where legislation aiming at the same end has for years been in force is to the effect that the proportion of accidents to one thousand employees has increased, that the proportion of serious accidents to one thousand employees has been stationary or has decreased, but that this decrease, if it existed, has been offset or more than offset by the apparent increase of minor accidents. Thus an examination by Dr. H. J. Harris of the accident statistics of Germany, Austria and Great Britain, published in the proceedings of our Association for last March, concludes that "the progress in the movement for reducing the risk of industry has resulted in distinctly reducing the risk of death or permanent disablement, but has not yet diminished the risk of temporary disablement."[4] I quote also the statements of M. A. Fontaine, the French Director of Labor, presented a few weeks ago before the International Congress on Hygiene and Demography at Washing-

[4] Am. Stat. Assn. Pub., vol. xiii., p. 27 (March 1912).

ton: "If, in order to eliminate the influence of the increase of the number of workmen, one refers the numbers of accidents to one thousand workmen, it is apparent that there has been [*sc.* in France] no increase in severe accidents, that the actual danger of the industries has not augmented, but that there is a characteristic and important increase of minor accidents. This change is attributed to the increasing care with which accidents are reported and still more to the legal modifications which influence the workmen to prolong short, temporary disabilities in order to get their remuneration."[5] The usual and probably the correct explanation of this fact in other countries also is that many minor accidents formerly were not reported at all, but now are registered. If this explanation be accepted, then the tendency in foreign countries has been towards a real decrease of serious accidents and perhaps towards a real decrease of all, though not of reported, minor accidents. On the same point the opinion of the commission recommending the law appears in the following sentence of its report signed by 13 of the 14 members: "It is the opinion of a great many of the employers testifying before us on the subject that the compensation system will have the effect of making the employers more careful and with that we agree, nor does it seem in any way probable that the compensation system would have any effect on making workmen careless."[6] This opinion of the Commission was in line with evidence showing that under the present system in three-eighths of the cases of fatal accident investigated nothing was paid to the surviving representatives of the deceased, in one-eighth only the funeral expenses were paid and in nearly three-eighths more the payment was less than $500. In cases of partial disability, temporary or permanent, the proportion receiving no compensation was even higher. This evidence, carefully considered by the Commission and presented in its

[5] Abstracts of Papers at International Congress on Hygiene and Demography, pp. 284, 285.

[6] Wainwright Commission, *First Report*, p. 56.

report, seems fully to justify its opinion. If the amount to be paid out by employers for accidents were to be increased several times, as the proposed system would do, the motives leading the employer to try to diminish the number of such accidents would be correspondingly strengthened.

The conclusion of the New York Commission has been recently supported by that of the Massachusetts Commission on Compensation for Industrial Accidents. It recommended an elective compensation law and with the New York decision in hand it unanimously rejected the conclusion of that court regarding the effect of such legislation upon the safety and health of employees and reported the following finding: "No one can study the history of this subject in other countries without being impressed by the fact that the operation of compensation laws in several of them has materially reduced the number of injuries in factories and workshops, especially those resulting from machine operation."[7] On the basis of this experience as well as other evidence, the Massachusetts Commission added: "Under the terms of the new law . . . the employers will realize that it is of the utmost consequence in a financial as well as a humanitarian way to prevent the injury. It is believed that it will be possible to decrease very largely the number of accidents and this aspect of the law is regarded as its most important part."[8]

The New York court seems to believe that an indirect method of decreasing the number of accidents, namely, by increasing the employer's pecuniary interest in preventing them, is unjustified. It hardly realizes that in securing social change indirect methods are often the most effective. The opinion of the Legislature, also, that the new law would diminish accidents seems to be clearly indicated by its passage of the bill. We have then upon one side of this issue of fact the conclusion of statisticians regarding the probable effect of similar laws in foreign countries, the conclusion of the New York Commission and the Massachusetts

[7] *Report*, p. 46. [8] *Ibid.*

Commission and the statistical evidence upon which they based that conclusion and the opinion of the Legislature which passed the law; and upon the other, the unanimous verdict of the Court of Appeals.

Another line of evidence also leads to the belief that the decision in question is entitled to scant consideration except from such courts as are bound to accept it as authority. The evidence is rather psychological than statistical, but still it may be mentioned as supporting the argument that courts are ill adapted to deal with these questions of social fact and that a speedy development of sound statistical work in this field is of capital importance for courts, judges and Legislatures.

If a statute passed in the exercise of the police power is attacked as unconstitutional, the court usually admits the existence of a presumption in favor of its constitutionality. As Justice Harlan put it in his dissenting opinion on the bake-shop case: "If there be doubt as to the validity of the statute . . . the courts must keep their hands off, leaving the Legislature to meet the responsibility for unwise legislation." A court approaching such a question and feeling bound to review the judgment of the Legislature might be expected to describe briefly the existing conditions, the evils which the statute was designed to remove, and the changes that had resulted or would result from it, before approaching the discussion of the constitutional objections to the new system. In that discussion an obvious desire to find the law constitutional would be expected.

In the present case the opinion begins with a paragraph reciting the facts and praising "the industry and intelligence of this Commission." The second paragraph begins the argumentative part with a most significant sentence: "The statute, judged by our common-law standards, is plainly revolutionary." On the lips of a lawyer and judge 57 years of age the word "revolutionary," like the word "socialistic," is a term of reproach or opprobrium and not of argument. With his opening sentence as a clue to the

writer's frame of mind, the following phrases scattered through the opinion gain new meaning: "The radical character of this legislation," "this departure from our long-established law and usage," "this indictment of the old system," "the new statute is totally at variance with the common law theory," "the theory is not merely new in our system of jurisprudence but plainly antagonistic to its basic idea." From these passages one not familiar with the law would be almost sure to infer that there is a strong legal presumption against a "revolutionary" statute "totally at variance with the common law theory." A careful reading of the decision shows that the court at another point of its discussion grudgingly admits what I take to be unquestioned, that the Legislature has the right to revolutionize the common law. If so, the common law no more furnishes any standard by which a statute changing it should be judged, than the decision of a lower court furnishes a standard by which the reversal of its decision by a higher court should be judged. Then what is the use of this lengthy discussion of the common-law theory? Apparently it reveals a frame of mind somewhat like this: The statute is so totally at variance with the common law that it probably violates also some underlying constitutional provision. And to that conclusion the court comes when it says: "With all due respect to the members of the commission, we beg to observe that the statute enacted in conformity with their recommendations does not stop at reversing the common law; it attempts to reverse the very provisions of the Constitution." And the court finds it unconstitutional because it is not a health law, or in its own words: "This statute . . . contains not a single provision which can be said to make for the safety, health or morals of the employees." The evidence already presented seems to indicate that it was a health law in the sense that its intended effect was, and probably its actual effect would have been, to diminish or check the increase in the number or proportion of accidents in the industries affected.

These three cases agree among themselves and represent many others in that each tribunal passed upon an important question of fact involved with the questions of law and in so doing decided the case. Each was a question of social fact, or fact about a group average, the average duration of trade life, the average healthfulness of an occupation, the average effect of a given method of compensation upon the frequency of industrial accidents.

Even if the view taken by many judges should finally be accepted by all courts and the decision of these questions of fact made by the legislature in enacting a statute should be left in all but extreme cases without judicial review still the difficulty of drawing a line between the extreme cases and other cases would be no less serious, though it might arise less often. If the court should refrain, the decision of the Legislature would be final.

If an appeal on such questions of fact from the decision of the State court of last resort to the voters were permitted, as has been proposed, the voters would face the same problem.

With whichsoever of these three, Legislature, court, or people, the final decision rests, there is great and growing need of perfecting our agencies for ascertaining social fact, and of these in my judgment the main one is social statistics. It is the lack of convincing social statistics upon such problems which has made it impossible to answer with confidence many of the questions judges and Legislatures have assumed or felt bound to answer.

It might be said that the need for statistics is not clear, that the brilliant work of Mr. Brandeis in defending the Oregon ten-hour law for women, which illustrates just what is needed, is far from statistical. Such work was probably the best that could be done under the conditions, but in many fields it could not be duplicated and like any collection of opinions it is open to challenge as mere opinion. Even expert opinion is a poor substitute for an inductive and exhaustive study of the fact.

Our political mechanism for the inductive determination of social fact is immeasurably inferior to our mechanism for the deductive application of legal principles to assumed states of social fact. Many courts, wisely or unwisely, have felt bound to review and decide upon such issues of fact and in doing so have often traversed the judgment of the Legislature and sometimes of the public, and at the same time have revealed a lack of desire or ability to investigate for themselves or do more than weigh the evidence submitted by the parties in the light of their own convictions or impressions. Such cases are sure to multiply and the criticism of the courts aroused by their decision seems likely to increase.

In such cases a developed system of social statistics should ascertain the facts and present them in a convincing way. It should render upon these multiplying questions of social fact somewhat the service that the jury system does upon questions of individual fact. Our methods of ascertaining social fact are on the whole less developed than in any other great industrial country; more and more our courts are finding it necessary to decide such questions of fact; our national attitude towards the courts is apparently changing from one of perhaps extravagant laudation to one of perhaps excessive criticism. These facts seem to me to be interdependent. The ascertainment and proof of the social facts should not be left to the individual parties to whatever suit may arise. The facts in the case at bar may be anything but typical and it is by typical, representative or average facts that the court should be guided to a decision. Into this field of exploration our American statistics seem destined to advance and by so doing to supplement a defect in our judicial system.

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